

Appl. No. 10/718,840
Amdt. Dated January 21, 2005
Reply to Office Action of December 14, 2004

REMARKS

Claims 1-50 were presented for examination. Claims 1, 5, 6, 8, 10, 12, 15, 16, 18, 19, 25-27, 29, 32, 36, and 44-46 are herein amended. Claims 11, 40, and 47-50 are herein cancelled, and claims 51-56 are new. Thus, claims 1-10, 12-39, 41-46, and 51-56 are currently pending.

The Applicant notes the Examiner's acknowledgement of the information disclosure statement mailed on March 23, 2004 with appreciation.

The Examiner rejected claims 1-31 and 46-50 under 35 U.S.C. §103(a) as being unpatentable over Wilson (U.S. Patent No. 3,806,498) in further view of Dabi (U.S. Patent 4,645,789).

The Applicant traverses this rejection. In addition, the Applicant has amended the claims to more distinctly define the claimed invention.

In order for the combination of Wilson and Dabi to render the claimed invention unpatentable, it must disclose or otherwise suggest (when the references are considered as a whole) each and every limitation recited in the claims. MPEP § 2143. Wilson and Dabi fail to satisfy this standard.

The Applicant's independent **claim 1** now recites, in part: "A crosslinked elastomeric rubber latex composition for thin film products, comprising: a polymer ...; a coreactant polyelectrolyte ...; and a polyfunctional crosslinking agent ...; wherein the crosslinked elastomeric rubber latex composition is in the form of a thin film rubber glove or condom." Independent **claim 25** now recites, in part: "A crosslinked elastomeric rubber latex composition for thin film products, comprising: a polymer ...; a coreactant polyelectrolyte ...; and a polyfunctional crosslinking agent ...; wherein the crosslinked elastomeric rubber latex composition is in the form of a thin film rubber glove or condom." Independent **claim 46** now recites, in part: "An accelerator free crosslinked elastomeric thin film rubber latex product in the form of a rubber glove or condom, comprising: a polymer ...; a coreactant polyelectrolyte ...; and a polyfunctional crosslinking agent ...; wherein the rubber glove or condom".

Thus, each of the Applicant's claims defines a crosslinked rubber latex that includes a

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polymer compounded with a coreactant polyelectrolyte, and a polyfunctional crosslinking agent. In addition, the Applicant has amended the claims so that the resulting crosslinked rubber latex composition or product is in the form of a thin film rubber glove or a condom. Also, claim language from original claims 11 and 12 is now recited in each of the Applicant's independent claims

As correctly noted by the Examiner, Wilson fails to disclose a coreactant polyelectrolyte as recited in the Applicant's claims. The Examiner notes, however, that Wilson discloses: "there is no upper limit to the number of free acid groups the polymer chains may contain. The more free acid groups per polymer chain, the more tightly cross linked is the resulting product." (col. 4, lines 17-20). From this, the Examiner concludes that another polymer having low molecular weight and being coreactant with the main polymer would be expected. The Applicant respectfully disagrees with this conclusion for at least two reasons.

Firstly, note that Wilson's disclosed compositions are designed for use as adhesives, caulking formulations, pyrotechnic compositions, and other cast/molded solid or "non-flowable" rubber compositions. (col. 1, lines 23-26; col. 6, lines 25-26, line 49, lines 64-65; col. 5, line 10, line 30, line 54, line 74; col. 8, line 15, line 30, lines 40-41, lines 67-68). These compositions can range from "very flexible elastomers" (like putty or caulk) to "harder, less flexible material" (like cast and molded thick hard rubber products) (col. 5, line 71 to col. 6, line 5), and do not require the use of a coreactant polyelectrolyte as claimed by the Applicant. Indeed, the additional use of a coreactant polyelectrolyte would produce a composition inappropriate for making such products (they would be too thin or absorbent). This is why Wilson failed to disclose or suggest such use.

Secondly, Wilson is merely disclosing that additional acid groups can be used per polymer chain to increase the cross linking reaction. Simply stated, providing additional acid groups per polymer chain does not implicate or otherwise suggest the addition of a coreactant polyelectrolyte to the main polymer, particularly when the intended product is an adhesive, caulk, pyrotechnic composition, or other cast/molded hard rubber composition as disclosed by Wilson. Moreover, note that adding such additional acid groups operates to make the resulting product more hardened, brittle, and less elastomeric, which has the opposite effect of adding a coreactant polyelectrolyte (which renders the product more elastomeric by adding plasticity). As such,

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Wilson's disclosed compositions cannot be used for thin film products such as rubber gloves and condoms, as now recited in the Applicant's claims.

In effort to correct deficiencies of Wilson, the Examiner cites Dabi.

As a preliminary matter, the Applicant respectfully submits the combination of Wilson and Dabi is improper in that, when taken as a whole, there is no motivation or suggestion to combine these references to achieve the Applicant's claimed invention. Section 2143.01 of the MPEP states: "The mere fact that references can be combined or modified is not sufficient to establish prima facie obviousness." In addition, the "level of skill in the art cannot be relied upon to provide the suggestion to combine references."

Rather, there must be some objective reason to combine the teachings of the references to make the claimed invention. The Applicant cannot find such an objective reason, and the Examiner has provided no reason other than ordinary skill in the art, in conjunction with the idea that an additional polyelectrolyte can participate in the cross linking process. However, the Applicant respectfully submits that such a combination would cause Wilson's polymer compositions to be ineffective for their intended functions. In addition, each of Wilson and Dabi (when considered as a whole) discourage combination with the other.

In more detail, and as previously explained, Wilson discloses adhesives, caulks, pyrotechnic compositions, or other cast/molded hard rubber compositions. (col. 1, lines 23-26; col. 6, lines 25-26, line 49, lines 64-65; col. 5, line 10, line 30, line 54, line 74; col. 8, line 15, line 30, lines 40-41, lines 67-68). These thick rubber compositions can range from "very flexible elastomers" (like putty or caulk) to "harder, less flexible material" (like cast and molded hard rubber products) (col. 5, line 71 to col. 6, line 5). Wilson fails to disclose or suggest a coreactant polyelectrolyte that is compounded with a base polymer. Thus, a primary objective of Wilson is to provide polymer compositions that range from flexible elastomers such as putty and caulk, to harder less flexible cast and molded rubber products, not elastomeric rubber films.

In contrast, Dabi discloses crosslinked polyelectrolyte compositions capable of absorbing and retaining many times their weight of fluids, such as water. (col. 1, lines 11-19; col. 5, lines 3-20; col. 6, lines 1-5, lines 24-26, lines 49-50, lines 53-54; col. 7, lines 5-6, lines 38-41; col. 8, lines 11-14; col. 9, lines 21-24, lines 45-49; all claims). Dabi teaches that, "to obtain best absorption properties, the minimum quality of crosslinking agent capable of insolubilizing the

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polyelectrolyte should be employed.” (col. 4, line 67 to col. 5, line 2). Dabi fails to disclose or suggest compounding the coreactant polyelectrolyte with a higher molecular weight polymer. Thus, a primary objective of Dabi is to provide highly absorbent crosslinked polyelectrolytes, not elastomeric rubber films.

With these objectives of Wilson and Dabi in mind, the Applicant can see no reason why one skilled in the art would be motivated to add the polyelectrolyte of Dabi to the rubber polymer compositions of Wilson (which are not intended to be water swellable or otherwise absorbent). To do so would require the reader to ignore the fact that Dabi’s polyelectrolyte is absorbent (which is a quality that would not be desirable in thin film rubber products such as rubber gloves and condoms). It would also require the reader to ignore Wilson’s objective - to provide adhesives, caulks, pyrotechnic compositions, or other cast/molded rubber compositions (which are compositions not suitable or otherwise desirable for making thin film rubber products such as rubber gloves and condoms). The MPEP §2141.02 states that references must be considered in their entirety, including disclosure that teaches away from the claimed invention. For at least these reasons, the Applicant respectfully submits that the requisite motivation to combine or modify is lacking.

Even if there was motivation to do so, note that modifying Wilson by Dabi (or Dabi by Wilson) would defeat the intended objectives of Wilson/Dabi and would require a substantial reconstruction and redesign of the compositions disclosed by Wilson/Dabi. In particular, the compositions of Wilson would have to be compounded with Dabi’s polyelectrolyte. In addition, Dabi’s absorbent polyelectrolyte would have to be modified so that it wasn’t absorbent. Likewise, note that adding the higher molecular weight rubber polymer of Wilson to Dabi’s composition would produce a composition not able to achieve Dabi’s intended objective of high absorbency and water retention qualities. Such a combination therefore appears to be in contradiction to MPEP § 2143.01, which states that a proposed modification cannot change the principle of operation of a reference. In this particular case, the “suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [Wilson/Dabi] as well as a change in the basic principle under which the [Wilson/Dabi] construction was designed to operate.” MPEP § 2143.01 Thus, the Applicant respectfully submits the combination is improper.

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In addition, the Applicant has also amended the claims, so that they now define a crosslinked elastomeric thin film rubber latex composition or product "in the form of a rubber glove or condom." Such thin film rubber compositions/products are not disclosed or otherwise suggested by either of Wilson or Dabi. The Applicant notes, however, that he intends to pursue the original claims, as well as other claims of varying scope, in one or more related continuation applications.

For at least these reasons, the Applicant submits neither Wilson or Dabi, nor their combination, discloses or suggests each and every limitation of the claimed invention. As such, the Applicant respectfully requests the Examiner to reconsider and withdraw this rejection.

The Examiner rejected claims 32-45 under 35 U.S.C. §103(a) as being unpatentable over Wilson in further view of Dabi in further view of Briden (U.S. Patent 4,605,698).

The Applicant traverses this rejection. In addition, the Applicant has amended the claims to more distinctly define the claimed invention.

In order for the combination of Wilson, Dabi, and Briden to render the claimed invention unpatentable, it must disclose or otherwise suggest (when the references are considered as a whole) each and every limitation recited in the claims. MPEP § 2143. Wilson, Dabi, and Briden fail to satisfy this standard.

The Applicant's independent claim 32 now recites, in part: "A method for dip-forming elastomeric thin film rubber products comprising: compounding a solution, latex, or dispersion of rubber latex A that includes A1 and A2 with a crosslinking agent B to provide a rubber polymer latex dip-forming composition, wherein A1 is a polymer ... A2 is a coreactant polyelectrolyte ... and B is a polyfunctional crosslinking agent; dipping a dip former in the rubber polymer latex dip-forming composition, and withdrawing the dip former, thereby providing a dip-formed wet latex gel layer; and curing the dip-formed wet latex gel layer at ambient temperature or higher, so as to allow a crosslinking network to form, and to provide a dip-formed dry elastomeric thin film rubber latex product in the form of a rubber glove or condom."

Thus, the Applicant's claims 32-45 each define a method for dip-forming elastomeric thin film rubber products that employs a dip former and a rubber polymer latex dip-forming

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composition that includes a polymer compounded with a coreactant polyelectrolyte, and a polyfunctional crosslinking agent. In addition, the Applicant has amended these claims so that the resulting dip-formed elastomeric thin film rubber latex product is in the form of a rubber glove or condom. Also, claim language from original claims 11 and 12 is now recited in the Applicant's independent claim 32.

As correctly noted by the Examiner, neither Wilson or Dabi disclose or suggest a method for dip-forming rubber products. In effort to correct this deficiency, the Examiner cites Briden.

Briden discloses coating compositions that employ polyfunctional aziridines as the crosslinking agent. They provide improved physical properties of the crosslinked coating with respect to moisture resistance, adhesion, ultraviolet light stability, alkali resistance, corrosion resistance and gloss. (Title; col. 1, lines 58-64; col. 3, lines 36-44; all claims). Briden further discloses that the "coating systems can be applied to the following substrates: steel, structural plastics, wood, zinc, aluminum and other ferrous and non-ferrous substrates and are applied by spray, dip, roll coat, brush and similar procedures." (col. 4, lines 27-31). When the coatings are cured, they form a hardened, non-elastic "enamel" that provides "superior properties in gloss, adhesion, ultraviolet light stability, alkali resistance, moisture resistance and corrosion resistance." (col. 12, lines 62-65; see also, for example disclosure relevant to enamel, col. 9, lines 15-20, line 65; col. 10, lines 38-41; Tables II, III, IV). Significantly, note that the coatings containing the disclosed polyfunctional aziridines disclosed by Briden exhibit superior "adhesion" to the object being coated. (col. 13, lines 5-14).

In contrast, the claimed method provides "a dip-formed dry elastomeric thin film rubber latex product." Simply stated, making a dip-formed dry elastomeric thin film rubber latex product is not the same as applying a coating. As Briden discloses, the coating can be applied by dipping. However, that coating is not intended to be removed once it is applied. Rather, the coating is designed to adhere to the dipped object. A "dip-formed" product, on the other hand, is removed from the "dip-former" once it is cured. In this sense, Briden is actually teaching away from the claimed invention by disclosing a coating that is designed to strongly adhere to the dipped object. Furthermore, note that Briden does not disclose a "dip-former" as that term is understood in the art. Briden merely discloses the various objects or "substrates" that can be coated. (col. 4, lines 27-31). Thus, the Applicant respectfully disagrees with the Examiner that it

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would have been obvious to use the coating process of Briden in the context of Wilson and Dabi, and respectfully submits that none of the cited references discloses or suggests "dipping a dip former in the rubber polymer latex dip-forming composition" as recited in the Applicant's claims.

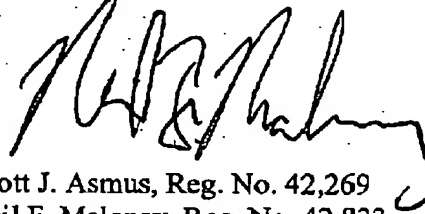
In addition, the Applicant has amended the claims so that the dip-formed elastomeric thin film rubber latex product is "in the form of a rubber glove or condom." None of Wilson, Dabi, Briden, or any combination thereof disclose or suggest a dip-formed dry elastomeric thin film rubber latex product in the form of a rubber glove or condom (or any other thin film products) as now claimed. Wilson discloses thick rubber compositions can range from flexible elastomers (putty or caulk) to harder, less flexible material (cast and molded hard rubber products); Dabi discloses highly absorbent crosslinked polyelectrolytes; and Briden discloses a hard enamel coating process.

Moreover, the Applicant respectfully submits the combination of Wilson, Dabi, and Briden is improper in that, when taken as a whole, there is no motivation or suggestion to combine these references to achieve the Applicant's claimed invention. Rather, the Applicant respectfully submits that the references actually teach away from such a combination. For example, recall that the objective of Dabi is to provide highly absorbent crosslinked polyelectrolytes. (col. 1, lines 16-17). In contrast, the coatings disclosed by Briden are designed to be water resistance." (col. 12, line 64; col. 13, line 15). Also, note that using Briden's coating process on either of Wilson's polymer (adhesive, putty, hard rubber) compositions or Dabi's absorbent crosslinked polyelectrolytes seems to lack any practical use or desirability. More specifically, the Applicant can find no practical or desirable reason to coat adhesive, putty, hard rubber, or absorbent crosslinked polyelectrolytes with a hard enamel coating. In this sense, the suggested combination of Wilson, Dabi, and Briden would require "a change in the basic principle under which the [Wilson/Dabi] construction was designed to operate." MPEP § 2143.01 In addition, the previous discussion relevant to the combination problems of Wilson and Dabi is also equally applicable here. Thus, the Applicant respectfully submits the combination is improper.

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The Applicant believes the above remarks to be fully responsive. Favorable action is solicited. The Applicant kindly invites the Examiner to contact the undersigned attorney by telephone, facsimile, or email for quickest resolution, if there are any remaining issues.

Respectfully submitted,



Scott J. Asmus, Reg. No. 42,269
Neil F. Maloney, Reg. No. 42,833
Andrew P. Cernota, Reg. No. 52,711
Attorneys for Applicant

Cus. No. 24222
Maine & Asmus
PO Box 3445
Nashua, NH 03061-3445
Tel. No. (603) 886-6100
Fax. No. (603) 886-4796
Info@maineandasmus.com

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